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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,026	01/08/2004	Avoki M. Omekanda	DP-310298	6093
22851	7590	01/19/2006	EXAMINER	
DELPHI TECHNOLOGIES, INC.			AURORA, REENA	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			2862	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/754,026

Applicant(s)

OMEKANDA ET AL.

Examiner

Reena Aurora

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This communication is in response to RCE received on 01/06/06.

Claims 1 – 24 are presented for examination.

### ***Claim Objections***

The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim 17 is objected to because of the following informalities: line 10, delete the word "magnet" and insert the word "—magnetic--". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Lutz (6,522,130).

As to claim 1, Lutz discloses an accurate rotor position sensor including a ring magnet (200, fig. 7) couplable to the rotatable member (712), the magnet (200) defining magnetic flux lines (Note fig. 1 and 2), said magnetic flux lines having a magnetic flux direction within the magnet (102, 202) and emanating from a magnetic pole of a surface of said ring magnet (200) and returning to an opposite magnetic pole of a second magnetic surface (note fig. 1), portions of the magnetic flux lines being main flux lines emanating away from the magnet (flux lines immediately emanating from the magnet) and aligned within 45 degrees with the direction of magnetization (fig. 1) and portions of the magnetic flux lines being return flux lines returning in directions forming an angle of more than 45 degrees with the direction of magnetization (flux lines returning from top surface to bottom surface); and at least one magnetic field sensor (722 in fig. 7 and 109 in fig. 1 and 2) disposed in at least one of the return flux lines and outputting a signal representative of the angular position of the magnet (Abstract lines 1 - 4).

As to claim 9, Lutz discloses a method for determining rotor position wherein providing a disk-shaped magnet (100, fig. 1, col. 4, lines 4 - 9) defining magnetic flux lines, said magnetic flux lines having a magnetic flux direction within the magnet and emanating from a magnetic pole of a first surface of said disk-shaped magnet and returning to an opposite magnetic pole of a second surface of said disk-shaped magnet (flux lines returning from top surface to bottom surface), portions of the magnetic flux

lines being main flux lines emanating away from the magnet and aligned within 45 degrees with the direction of magnetization (fig. 1) and portions of the magnetic flux lines being return flux lines returning in directions forming an angle of more than 45 degrees with the direction of magnetization; sensing magnetic flux in at least one of the return flux lines (109 in fig. 1); and outputting a signal representative of the angular position of the magnet, based on the sensing act (Abstract lines 1 - 4).

As to claim 10, Lutz discloses that the magnet (200, fig. 2) is annular.

As to claim 17, Lutz discloses an accurate rotor position sensor including magnetic means (200, fig. 7) for generating magnetic field having magnetic flux lines (Note fig. 1 and 2), wherein said magnetic flux lines have a magnetic flux direction (102, 202) within the magnetic means and emanate from a magnetic pole of a first surface of said magnetic means and return to an opposite magnetic pole of a second surface of said magnetic means (flux lines returning from top surface to bottom surface), portions of the magnetic flux lines being main flux lines emanating away from the magnet and aligned within 45 degrees with the direction of magnetization, and portions of the magnetic flux lines being return lines returning in directions forming an angle of more than 45 degrees with the direction of magnetization; and sensing means (722 in fig. 7) disposed in said return flux lines (emanated flux line after being immediately emanated becomes a return flux line) generated by the magnetic means (200) for outputting a signal representative of an angular position (Abstract lines 1 - 4).

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As to claim 18, Lutz discloses that the magnet means is a ring magnet (200, fig. 2) and the sensing means is a sensor (109).

As to claim 2, Lutz discloses that the sensor (109, fig. 1 and 2; 722, fig. 7) is disposed radially outside of an outer diameter of the magnet (100, 200).

As to claims 3, 11 and 19, Lutz discloses that the sensor is a Hall effect sensor (109, fig. 1 and 2) (col. 4, line 28).

As to claims 4, 12 and 20, Lutz discloses that the sensor (722, fig. 8) is oriented to sense a radial component of magnetic flux (col. 4, lines 47 - 54).

As to claims 5, 13 and 21, Lutz discloses that the sensor (109 in fig. 1 and 2; 722 in fig. 8) is located in a radial return flux line at a location where the radial return flux line is substantially parallel to an annular surface of the magnet (100, 200).

As to claims 6, 14 and 22, Lutz discloses that the sensor (722) is oriented to sense an axial component of magnetic flux (fig. 7, col. 4, lines 8 - 32).

As to claims 7, 15 and 23, Lutz discloses that the magnet (200) defines a central axis (714) and a plane perpendicular to the axis, the sensor (722) being disposed substantially in the plane (fig. 7).

As to claims 8, 16 and 24, Lutz discloses that the rotatable member (712) is a vehicle component (col. 1, lines 10 - 13).

***Response to Arguments***

Applicant's arguments filed on 01/06/06 have been fully considered but they are not persuasive. Applicant's argument that the magnetic field sensor is placed in returning flux lines. Response: please note rejection of claim 1.

Applicant's argument that the instant application requires only one sensor and one pole pair. Response: This limitation is not in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Reena Aurora